

CLAIMS

The embodiments of the invention in which an exclusive property or right is claimed are defined as follows. Having thus described the invention

5 what is claimed is:

1. A diaphragm cover apparatus for a sensor, comprising:

10 a diaphragm associated with a sensor cover and a base located proximate to said sensor cover; and

15 a dimple located centrally within said diaphragm, wherein said dimple comprises a component that is separate from diaphragm and wherein said dimple contacts a sense element of said sensor.

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2. The apparatus of claim 1 further comprising a foil for blocking air permeation through said diaphragm when said sensor experiences pressure.

25 3. The apparatus of claim 1 wherein said diaphragm further comprises an over-mold diaphragm that is located within said sensor cover, wherein said dimple is located centrally within said over-mold diaphragm and sensor cover .

25 4. The apparatus of claim 1 wherein said dimple comprises a circular portion, which contacts said sense element, and wherein said dimple comprises a highly polished surface to reduce stress concentrators.

30 5. The apparatus of claim 1 wherein said dimple is formed from a stainless steel material.

6. The apparatus of claim 1 wherein said dimple is formed from a

ceramic material.

7. The apparatus of claim 1 wherein said sense element comprises a quartz sense element.

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8. The apparatus of claim 1 wherein said sense element comprises a silicon sense element.

9. The apparatus of claim 1 wherein said sense element comprises a 10 ceramic sense element.

10. The apparatus of claim 1 wherein said sense element is in intimate contact with said highly polished surface of said dimple.

15 11. A sensor diaphragm cover apparatus for a sensor, comprising:

an over-mold diaphragm located within a sensor cover and a base located proximate to said sensor cover;

20 a dimple located centrally within said sensor cover, wherein said dimple comprises a component that is separate from diaphragm, wherein said dimple contacts a quartz sense element of said sensor, and wherein said dimple comprises a highly polished surface to reduce stress concentrators; and

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a foil for blocking air permeation through said diaphragm when said sensor experiences pressure.

12. The apparatus of claim 11 wherein said dimple is formed from a 30 stainless steel material.

13. The apparatus of claim 11 wherein said dimple is formed from a

ceramic material.

14. A method for molding a diaphragm cover apparatus for a sensor, said method comprising the steps of:

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locating a sensor cover proximate to a base;

molding a diaphragm within said sensor cover; and

10 establishing a dimple centrally within said cover, wherein said dimple comprises a component that is separate from sensor cover and wherein said dimple contacts a sense element of said sensor.

15. The method of claim 14 further comprising the step of configuring a foil within said diaphragm to block air permeation through said diaphragm when said sensor experiences pressure, wherein said foil is established as said diaphragm is molded.

20. The method of claim 14 further comprising the step of molding said diaphragm to comprise an over-mold diaphragm molded within said sensor cover.

17. The method of claim 14 further comprising the step of forming a dimple with a highly polished surface to reduce stress concentrators.

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18. The method of claim 14 further comprising the step of forming said dimple from a stainless steel material.

19. The method of claim 14 further comprising the step of forming said 30 dimple from a ceramic material.

20. The method of claim 14 further comprising the step of forming said

sense element as a quartz sense element.